

## Claims

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A network address translation device for facilitating communication between a first application in a first address realm and a second application in a second address realm comprising:

an address translator for translating an address valid in the first address realm into an address valid in the second address realm based on a translation rule and for translating the address valid in the second address realm into the address valid in the first address realm;

an address manager for establishing a translation rule by associating an address valid in the first address realm with an address valid in the second address realm; and

a control channel communicating with the address manager for receiving from the first application a request for an address valid in the second address realm to be associated with a specified address valid in the first address realm and for providing the first application access to the address valid in the second address realm to facilitate communication of the address valid in the second address realm to the second application.

2. The network address translation device of claim 1 wherein the address requested by the first application is a terminating address.

3. The network address translation device of claim 1 wherein the address requested by the first application is an originating address.

4. The network address translation device of claim 1 wherein the first address realm is an internal network and the second address realm is an external network.

5. The network address translation device of claim 1 wherein the first address realm is private network and the second address realm uses global internet addresses.

establishes a translation rule by associating an address valid in the private network realm with an address valid in the global internet address realm.

7. The network address translation device of claim 1, wherein the address manager controls address translation by establishing rules for the translation of address information in an inbound message packet to occur or not occur in response to the presence or absence of specified originating address information that in the message packet.

8. The network address translation device of claim 1, wherein the address manager controls address translation by establishing rules for the translation of address information in an inbound message packet whereby translation occurs under a first rule or under a second rule in response to presence or absence of specified originating address information in the message packet.

9. The network address translation device of claim 1, wherein the communication facilitated is peer-to-peer application communication.

10. The network address translation device of claim 1, wherein the address translator performs translation with a rule stored in memory accessible by the address translator.

11. The network address translation device of claim 1, wherein the address manager establishes a rule stored in memory accessible by the address translator.

12. The network address translation device of claim 1, wherein at least one translation rule is a rule pairing an address in the first address realm with an address in the second address realm.

13. The network address translation device of claim 1, wherein the address manager establishes a translation rule that forces an association with a destination address in a transit network.

14. The network address translation device of claim 1, wherein the address manager establishes a translation rule that forces at least a portion of the communication between the first application and the second application to pass through a specified network.

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15. A method for facilitating communication between a first application in a first address realm and a second application in a second address realm comprising:

providing the first address realm with a network address translation device having an address translator for translating an address valid in the first address realm into an address valid in the second address realm based on a translation rule and for translating the address valid in the second address realm into the address valid in the first address realm;

providing an address manager in communication with the address translator for establishing a translation rule by associating an address valid in the first address realm with an address valid in the second address realm;

providing a control channel communicating with the address manager; and

receiving at the address manager from the first application a request for an address valid in the second address realm to be associated with a specified address valid in the first address realm; and

providing the first application access to the address valid in the second address realm to facilitate communication of the address valid in the second address realm to the second application.

16. The method of claim 15 wherein the step of receiving a request for an address valid in the second address realm comprises receiving a request by the first application for a terminating address.

17. The method of claim 15 wherein the step of receiving a request for an address valid in the second address realm comprises receiving a request by the first application for an originating address.

18. The method of claim 15 wherein the first address realm is an internal network and the second address realm is an external network.

19. The method of claim 15 wherein the first address realm is private network and the second address realm uses global internet addresses.

20. The method of claim 19 wherein the address manager establishes a translation rule by associating an address valid in the private network realm with an address valid in the global internet address realm.

21. The method of claim 15, wherein the address manager controls address translation by making the translation of address information in an inbound message packet occur or not occur in response to the presence or absence of specified originating address information in the message packet.

22. The method of claim 15, wherein the address manager controls address translation by establishing rules for the translation of address information in an inbound message packet whereby translation occurs under a first rule or under a second rule in response to the presence or absence of specified originating address information in the message packet.

23. The method of claim 15 wherein the step of receiving a request for an address valid in the second address realm is performed twice and the first application requests and receives both a terminating address and an originating address and the address manager not only establishes a translation rule by associating a terminating address valid in the first address realm with an address valid in the second address realm but also makes use of that rule contingent on the presence or absence of specified information in the originating address.

24. The method of claim 15, wherein the communication facilitated is peer-to-peer application communication.

25. The method device of claim 15, wherein the address translator performs translation with a rule stored in memory accessible by the address translator.

26. The method of claim 15, wherein the address manager establishes a rule stored in memory accessible by the address translator.

27. The method of claim 15, wherein at least one translation rule is a rule pairing an address in the first address realm with an address in the second address realm.

28. The method of claim 15, wherein the address manager establishes a translation rule that forces an association with a destination address in a transit network.

29. The method of claim 15, wherein the address manager establishes a translation rule that forces at least a portion of the communication between the first application and the second application to pass through a specified network.

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as

$\frac{d}{dt} \left( \frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

software operatively associated with the first application for communicating to the address manager a request for an address valid in the second address realm to be associated with a specified address valid in the first address realm, for receiving access to the address valid in the second address realm, and communicating the address valid in the second address realm to the second application.

31. The system of claim 30 wherein the address requested by the first application is a terminating address.

32. The system of claim 30 wherein the address requested by the first application is an originating address.

33. The system of claim 30 wherein the first address realm is an internal network and the second address realm is an external network.

34. The system of claim 30 wherein the first realm is a private network and the second realm uses global internet addresses.

35. The system of claim 34 wherein the address manager establishes a translation rule by associating an address valid in the private network realm with an address valid in the in the global internet address realm.

36. The system of claim 30, wherein the address manager controls address translation by establishing rules for the translation of address information in an inbound message packet to occur or not occur in response to the presence or absence of specified originating address information in the message packet.

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38. The system of claim 30, wherein the address manager controls address translation by establishing rules for the translation of address information in an inbound message packet whereby translation occurs under a first rule or under a second rule in response to the presence or absence of specified originating address information in the message packet.

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39. The system of claim 30, wherein the communication facilitated is peer-to-peer application communication.

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40. The system device of claim 30, wherein the address translator performs translation with a rule stored in memory accessible by the address translator.

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41. The system of claim 30, wherein the address manager establishes a rule stored in memory accessible by the address translator.

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42. The system of claim 30, wherein at least one translation rule is a rule pairing an address in the first address realm with an address in the second address realm.

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43. The system of claim 30, wherein the address manager establishes a translation rule that forces an association with a destination address in a transit network.

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44. The method of claim 30, wherein the address manager establishes a translation rule that forces at least a portion of the communication between the first application and the second application to pass through a specified network.

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